

REMARKS

Claims 1-7 are pending in this application. Claim 1 is independent and has been amended. Claim 2 has been cancelled. In light of the following remarks, favorable reconsideration and allowance of the present application are respectfully requested.

Drawings

Applicants appreciate the Examiner's indication that the drawings filed on November 15, 2005 are acceptable.

Foreign Priority

Applicants also appreciate the Examiner's acknowledgement of a claim for foreign priority under 35 U.S.C. §119 and indication that certified copies of all priority documents have been received.

Information Disclosure Statements

Applicants also appreciate the Examiner's initiating of all documents cited on the Information Disclosure Statement filed November 15, 2005.

Rejections under 35 U.S.C. §102 - Hanaoka

Claims 1 and 3-7 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Application Publication No. 2003/0067950 ("Hanaoka"). This rejection is respectfully traversed.

Hanaoka allegedly teaches a nitride semiconductor device including a chip mount portion 101, a submount 102, and a semiconductor laser chip 103. The nitride semiconductor laser chip 103 is fixed, with solder 107, on the surface of a submount 102 that is fixed, with solder 106, on the surface of a chip mount portion 101 formed so as to protrude from a stem 100. (*Hanaoka*, paragraph [0039] and FIGS. 2 & 3).

Hanaoka further teaches that submount 102 is allegedly "made of a material having a thermal expansion coefficient higher than that of a nitride semiconductor substrate." (*Hanaoka*, Abstract; also taught in paragraphs [0011], and [0042], [0061], and [0075] with respect to various embodiments). The Examiner asserts this teaches "a nitride-based semiconductor light-emitting element chip formed on an electrically

conductive substrate, and a submount...said submount being made of a material having a thermal conductivity higher than that of a material used to form said electrically conductive substrate" as recited by claim 1. (*Office Action*, page 2).

Applicants respectfully submit the following definitions:

Thermal conductivity – 1) capability of conducting heat; 2) the quantity of heat that passes in unit time through a unit area of plate whose thickness is unity when its opposite faces differ in temperature by one degree.¹

Thermal expansion – increase in linear dimensions of a solid or in volume of a fluid because of rise in temperature.²

Thermal expansion coefficient – the fractional change in length or volume of a material for a unit change in temperature.³

Upon inspection of the above definitions, Applicants submit that it will be appreciated that submount 102, "made of a material having a thermal expansion coefficient higher than that of a nitride semiconductor substrate" cannot anticipate a "submount being made of a material having a thermal conductivity higher than that of a material used to form said electrically conductive substrate" as recited by claim 1, because these terms refer to wholly different material properties.

Applicants therefore respectfully request the rejection of claim 1 be withdrawn, and also that the rejections of claims 3-7 be withdrawn as well, at least by virtue of their dependency upon claim 1.

Rejections Under 35 U.S.C. § 103 – Hanaoka in view of Uchida

Claim 2 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Hanaoka* in view of U.S. Patent No. 6,301,278 ("Uchida"). Applicants submit that this rejection is moot in light of the cancellation of claim 2.

¹ Webster's Third New International Dictionary, Unabridged (© 2002 Merriam-Webster Inc.)

² Webster's Third New International Dictionary, Unabridged (© 2002 Merriam-Webster Inc.)

³ McGraw-Hill Dictionary of Scientific and Technical Terms, 6th Edition (© 2003 The McGraw-Hill Companies Inc.)

CONCLUSION

In view of the above remarks and amendments, Applicants respectfully submit that each of the rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Andrew D. Kasnevich at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,
HARNESS, DICKEY, & PIERCE, P.L.C.

By


Donald J. Daley, Reg. No. 34,313

P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

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